

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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<b>Applicant</b>	:	Francesca Kuglen	<b>Atty Docket:</b>	K551-003.B
<b>Serial No.</b>	:	10/764,279	<b>Examiner:</b>	Robyn Kieu Doan
<b>Filed</b>	:	January 22, 2004	<b>Art Unit:</b>	3732
<b>For</b>	:	STRETCH COMB HAIR RETAINER	<b>Conf. No.:</b>	9690

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**RULE 132 DECLARATION OF INGRID JOHNSON (37 CFR 1.132)**

This declaration is offered in support of the above-identified patent application.

1. I am a full professor of Textile Development & Marketing at the Fashion Institute of Technology (F.I.T.) in New York, where I am also assistant chair of the Textile Development & Marketing department. I hold a Baccalaureate degree in textiles from Philadelphia College of Textiles & Science and a master's degree in textiles from North Carolina State University. I have more than 30 years of experience in the textile industry, and am the co-author of Fabric Science, published by Fairchild Publications. I frequently lecture on the subject of textiles both in the United States and internationally.

2. I have reviewed U.S. Patent No. 1,665,380 issued April 10, 1928 to Louis Ruffio (the "Ruffio patent"), titled "Woman's Headdress." The Ruffio patent discloses can be referred to as a "hair extender," which is to be worn in a woman's hair to provide extra length and body to the hair. The body of the hair extender is a woven mesh material described as an "elastic material," and more particularly as an "elastic woven fabric." Hair is not pulled through this mesh of Ruffio, but rather is secured to it. Indeed, for the reasons given below, it would not, in my view, be possible to pull hair through a mesh material such as disclosed in Ruffio.

3. The term "elastic," when applied to a materials such as woven fabrics, means that the material, when deformed, will recover after the deforming force is removed. (See definition of "elasticity," page 197, Fairchild's Dictionary of Textiles, 7<sup>th</sup> Edition, copy attached). By itself reference to an "elastic material" does not mean that the material can be stretched to any particular degree, but rather that, when deformed, it will

return to its original size and shape. The degree of stretch in any elastic material such as "elastic woven fabric" will depend on the characteristics and construction of the particular material used. Also, the stretch characteristics may depend on direction. For example, a fabric may be designed be stretchable in the warp direction and have little or no stretch capabilities in the weft direction.

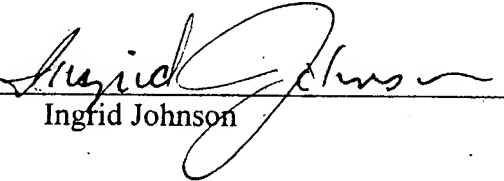
4. In my view the individual openings in an "elastic material" or "elastic woven fabric" could not be individually stretched to increase the size of the opening to the point where sometime, such as a quantity of hair, could be pulled through it, unless the material was specifically designed to do so. Normally, the relatively small openings in the ~~an~~<sup>el</sup> elastic material would become smaller and tighter as it is stretched. An example ~~of~~<sup>of</sup> would be support hose which offers excellent ability to pull back to its original dimension thus providing restrictive support. Traditional hose do not have such support but can stretch (extend in length or width by applying tension) and recover.

5. Synthetic (manufactured) elastics were not available in the 1920's when the Ruffio patent issued and the use of natural elastomeric material available at the time and having a high degree of stretchability is not indicated in Ruffio. Rather the opposite is indicated since Ruffio discloses to add a buckle to the mesh material to adjust the hair to accommodate different head sizes. Also, a high degree of stretchability would not be desirable for the elastic foundation material of Ruffio, since the artificial hair is secured directly to this material. If over stretched, the fabric material would tend to pull the base of artificial hair tufts apart, possibly causing detachment or partial detachment of the hair tufts from the extender.

6. The "elastic material" described and shown in Ruffio appears to be a sheer, mesh of coarse yarns similar to cheese cloth, which was available at the time of the Ruffio patent. Cheese cloth can be termed "elastic" since it has a degree of give or stretch and would recover its shape when the force causing the deformation is removed. It would be very difficult if not impossible to pull any amount of hair through the individual weave openings of cheese cloth. Any attempt to do so would likely damage the cloth by splintering away the outside fibers. I would note that even if the use of natural elastomers such as rubber were indicated as the preference material for the woven fabric described and shown in Ruffio, stretching small openings in the weave would cause the material to constrict like most elastic woven fabrics: the relatively small openings in the weave would narrow and become more taut as the material is stretched in one direction, making it more difficult to pull something through the fabric.

**[Continued on Next Page]**

The undersigned declares that all statements of her own knowledge made herein, and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements made jeopardize the validity of the above-identified application, or any patent issuing thereon.

  
Ingrid Johnson

Date: June 28, 2007

# Fairchild's Dictionary of Textiles

7th Edition

Phyllis G. Tortora, editor  
*Queens College of the City University of New York*

Robert S. Merkel, consulting editor  
*Florida International University*

Fairchild Publications New York

**elastic cord** An elastic yarn with a rubber core covered with fine textile filament yarn.

**elastic fabric** A woven or knitted fabric made with elastic or elastomeric yarns. Uses: garters, girdles, sportswear, swimwear. See ELASTOMERIC YARN, STRETCH FABRIC.

**elastic finish** A finish applied to such fabrics as SHEETING 1. and JACONET. Synonym: *brise*.

**elastic-finish sheeting** An open weave, flexible, starched sheeting that will regain its original dimensions after being pulled or stretched; used principally for interlinings and similar fabrics.

**elastic flannel** A term applied to British knitted goods with raised nap on the face. There are no elastic yarns in this fabric. The effect is created by the knit construction. Uses: women's clothing.

**elastic gore** A tape made with elastic yarns. Used in footwear, generally in the sides.

**elasticity** Ability of a material to undergo instantaneous and forceful recovery toward its original length and shape when a deforming force is released. The term *STRETCH* indicates high elongation, but recovery may be weak or delayed. Also see *CREEP*.

**elasticized** A term for fabrics that have elastic properties because of elastic yarns that run through them.

**elastic, knitting-in** Technique incorporating elastic yarn in knitted cloth by knitting rather than by laying-in.

**elastic, laying-in** System of introducing a rubber or spandex yarn into knitted cloth. The elastic yarn is bound to the reverse side of the cloth by means of alternate tucks and floats.

**elastic limit** The maximum amount of load or elongation to which a textile specimen can be subjected without acquiring any permanent deformation. See *YIELD POINT*.

**elastic recovery** Amount of immediate recovery of textile fiber, yarn, or fabric after stretching. See *CREEP*, *ELASTICITY*.

**elastic sewing thread** A continuous elastic covered with cord. Uses include decorative stitching, shirring.

**elastic tape** A lightweight, narrow fabric containing ELASTOMERIC YARN that provides high stretch and recovery in at least one direction.

**elastic webbing** A strong, stout, narrow fabric made with ELASTOMERIC YARN as part of the warp. Such webbings have weights on the order of 16 oz./sq. yd. or more. During the 19th century, elastic webbing was made by introducing strips of rubber into the shed formed by the warp on the loom. Such fabrics were, therefore, elastic in the filling direction. At that time, used in elastic insets to make shoes and boots fit without laces.

Presently used for corsets, brassieres, garters, suspenders, shoe goring. Also see *ELASTIC FABRIC*.

**elastic yarn** See *ELASTOMERIC YARN*, *STRETCH YARN*.

**elastik** A term used in Austria for lightweight, sheer linen fabric that is unbleached; used for linings.

**elastique** [ee-las-teek] 1. A firm, worsted suiting with a distinct double twill line on a 63° right-hand twill weave with narrow and wide wales. Similar to cavalry twill: Used for such apparel items as uniforms, riding habits, slacks. Synonym: *TRICOTINE*. †2. A fine, mid-19th-century overcoating, made of merino wool.

**elastodiene** British generic name for fibers of natural or synthetic rubber.

**elastomer** [ee-las-toh-muhr] A synthetic rubbery material, which has the excellent stretchability and recovery of natural rubber. According to ASTM, an elastomer should be capable of repeated stretching to three times its original length; and recovery to its approximate original length upon release of stress. See *SPANDEX*.

**elastomeric yarn** Yarn composed of or containing filaments of an ELASTOMER and having the ability to immediately and forcibly return to its approximate original length after repeated stretching to twice or more than twice its original length at room temperature. Uses: elastic fabrics, elastic webbings. Also see *STRETCH YARN*.

**Elaston** Trademark owned by Zakłady Włokien Chemicznych, Poland, for spandex yarn produced on a pilot basis.

**elatche** (elastche) A checked Indian dress fabric handmade of cotton with colored silk yarns that form the pattern.

†**elberfeld silk** A term that was used in Europe for rayon, later known by the trademark *GLANZSTOFF*.

**electoral cloth** See *BIRETZ*.

**electoral wool** See *SAXONY 1*.

**electra** An umbrella fabric made of cotton and silk or manufactured fibers. It is a variety of *GLORIA*.

**electrical conductivity** The ability of textile fibers to carry or transfer electrical charges. Many manufactured fibers with low electrical conductivity tend to build up static electric charges that cause fabrics to cling and to produce electric shocks unless they are given finishes to improve conductivity. See *ELECTROSTATIC PROPENSITY*, *STATIC ELECTRICITY*, *STATIC ELIMINATOR*.

**electrical finish** A treatment designed to impart a high level of electrical resistance to a textile material.